

as a collection of entities where some entities are calculation entities and some are data entities. The process converts the calculation entities in the sub-model that depend on entities in the full model outside of the sub-model to temporary data entities. Further, the process deletes the connecting arcs in the sub-model directed to the converted temporary data entities. The process also determines if there are any isolated cycles in the sub-model, and, if so, which of the entities in the isolated cycle will be an output entity.

#### **REMARKS**

This Preliminary Amendment is intended to correct an inconsistency and inaccuracy in the originally filed application. Particularly, the above amendments state that when a calculation entity in the sub-model is converted to a temporary data entity, the connecting arcs directed to that temporary data entity are removed. The originally filed application stated that the data entity connected to the temporary data entity was deleted. In other words, in order to remove the dependency of a temporary data entity on another data entity, the arc from the other data entity to the temporary data entity is deleted, not the other data entity itself.

No new matter is being entered by this Amendment because it is inherent in the method that the connecting arcs from the data entities to the temporary data entities in the sub-mode are removed if the data entities are removed because the arcs are then useless.

Serial No. 09/740/584  
Filed: December 18, 2000

It is believed that this application is in condition for allowance, and it is respectfully requested that the Examiner pass this case to issue.

Respectfully submitted,  
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**ATTACHMENT FOR SPECIFICATION AMENDMENT**

U.S. Serial No. 09/740,584; Filed: December 18, 2000

Docket No. GP-301022/HDP Docket No. 5922-000039

The paragraph starting at page 3, beginning with line 27, has been amended to read as follows:

In accordance with the teachings of the present invention, a process for analyzing a sub-model associated with a full model system is disclosed. The process includes defining the sub-model as a collection of entities, where some of the entities are calculation entities and some are data entities. The process converts the calculation entities in the sub-model that depend on entities in the full model outside of the sub-model to temporary data entities. Further, the process deletes the connection arcs [any data entity] in the sub-model directed to the [from which any] converted temporary data entities [entity depends]. The process also determines if there are any isolated cycles in the sub-model and, if so, which of the entities in the isolated cycle will be an output entity. Further, the process adds all global variables to the sub-model that are used in the full model.

The paragraph starting at page 12, beginning with line 20, has been amended to read as follows:

Next, the algorithm temporarily deletes the dependencies of temporary data entities on other data entities, as represented by the step of box 80. Because some of the calculation entities may have been converted to temporary data entities, these

temporary data entities may depend on other data entities that provided the inputs to the prior calculation entity. Thus, the connecting arcs from the data entities directed to [from which] the temporary data entities [depend] are deleted. This is an important step because a calculation entity that has been converted to a temporary data entity in the sub-model can't depend on another data entity because it is now a data entity itself.

**ATTACHMENT FOR CLAIM AMENDMENTS**

U.S. Serial No. 09/740,584; Filed: December 18, 2000

Docket No. GP-301022/HDP Docket No. 5922-000039

2. (Amended) The method according to claim 1 further comprising the step of deleting connecting arcs directed to [those entities that] the temporary data entities [depend on].

8. (Amended) A method for analyzing a sub-model of a full system model, said method comprising the steps of:

defining the sub-model as a collection of entities;

determining which of the entities in the sub-model are calculation entities and which are data entities;

converting the calculation entities in the sub-model that depend on entities in the full model that are not included in the sub-model into temporary data entities;

deleting connecting arcs directed to [those entities that] the temporary data entities [depend on];

identifying output entities in the sub-model, where the output entities are calculation entities that do not have an output to another entity;

identifying isolated cycles in the sub-model that are a series of entities that depend on themselves; and

analyzing the sub-model by performing the calculations for the calculation entities.

14. (Amended) The system according to claim 13 further comprising means for deleting the connecting arcs directed to [those entities that] the temporary data entities [depend on].

**ATTACHMENT FOR ABSTRACT AMENDMENT**  
U.S. Serial No. 09/740,584; Filed: December 18, 2000  
Docket No. GP-301022/HDP Docket No. 5922-000039

Please amend the Abstract as follows:

A process for analyzing a sub-model associated with a full system model as often depicted as an influence diagram. The process includes defining the sub-model as a collection of entities where some entities are calculation entities and some are data entities. The process converts the calculation entities in the sub-model that depend on entities in the full model outside of the sub-model to temporary data entities. Further, the process deletes the connecting arcs [any data entity] in the sub-model directed to the [from which any] converted temporary data entities [entity depends]. The process also determines if there are any isolated cycles in the sub-model, and, if so, which of the entities in the isolated cycle will be an output entity.